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J. T. Beard

JUL 15 1983

Docket No. 50-364

Mr. F. L. Clayton
Senior Vice President
Alabama Power Company
Post Office Box 2641
Birmingham, Alabama 35291

Dear Mr. Clayton:

The Commission has issued the enclosed Amendment No. 23 to Facility Operating License No. NPF-8 for the Joseph M. Farley Nuclear Plant, Unit No. 2. The amendment consists of changes to the Technical Specifications in response to your application transmitted by letter dated May 27, 1983, as supplemented July 13 and July 15, 1983.

The amendment modifies Technical Specifications on a one-time basis for the remainder of Cycle 2 operation. Testing involves cycling sixteen turbine valves weekly to show full stroke capability.

A copy of the related Safety Evaluation is enclosed. The Notice of Issuance will be included in the Commission's next regular monthly Federal Register notice.

Sincerely,

ISI

Edward A. Reeves, Project Manager
Operating Reactors Branch No. 1
Division of Licensing

Enclosures:
1. Amendment No. 23 to NPF-8
2. Safety Evaluation

cc w/enclosures:
See next page

7/15/83 5:30pm Advised APCO (Gerge) By telecon of license amendment signed and dated today (Reeves, Project Manager)
7/15 5:35pm Called resident inspector (Bradford) left message on office recorder.
5:46pm 7/15 Called Region 2 (Lewis) and advised of above, E. Reeves

7/15/83

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OFFICE	ORB 1	ORB 1	ORB 1	AD:ORB/DL	OELD	DL:AD/S	
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Mr. F. L. Clayton
Alabama Power Company

cc: Mr. W. O. Whitt
Executive Vice President
Alabama Power Company
Post Office Box 2641
Birmingham, Alabama 35291

Ruble A. Thomas, Vice President
Southern Company Services, Inc.
Post Office Box 2625
Birmingham, Alabama 35202

George F. Trowbridge, Esquire
Shaw, Pittman, Potts and Trowbridge
1800 M Street, N.W.
Washington, D. C. 20036

Chairman
Houston County Commission
Dothan, Alabama 36301

Robert A. Buettner, Esquire
Balch, Bingham, Baker, Hawthorne,
Williams and Ward
Post Office Box 306
Birmingham, Alabama 35201

Resident Inspector
U. S. Nuclear Regulatory Commission
Post Office Box 24-Route 2
Columbia, Alabama 36319

State Department of Public Health
ATTN: State Health Officer
State Office Building
Montgomery, Alabama 36104

Regional Radiation Representatives
EPA Region IV
345 Courtland Street, N.E.
Atlanta, Georgia 30308

D. Biard MacGuineas, Esquire
Volpe, Boskey and Lyons
918 16th Street, N.W.
Washington, D.C. 20006

Charles R. Lowman
Alabama Electric Corporation
P.O. Box 550
Andalusia, Alabama 36420

Mr. R. P. McDonald
Vice President - Nuclear Generation
Alabama Power Company
P.O. Box 2641
Birmingham, Alabama 35291

James P. O'Reilly
Regional Administrator - Region II
U. S. Nuclear Regulatory Commission
101 Marietta Street, Suite 3100
Atlanta, Georgia 30303

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

ALABAMA POWER COMPANY

DOCKET NO. 50-364

JOSEPH M. FARLEY NUCLEAR PLANT, UNIT NO. 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 23
License No. NPF-8

1. The Nuclear Regulatory Commission (the Commission) has found that:

   A. The application for amendment by Alabama Power Company (the licensee) dated May 27, 1983, as supplemented July 13 and July 15, 1983, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act) and the Commission's rules and regulations set forth in 10 CFR Chapter I;

   B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;

   C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;

   D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and

   E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 2.C.(2) of Facility Operating License No. NPF-8 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 23, are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

3. This license amendment is effective as of the date of its issuance.

FOR THE NUCELAR REGULATORY COMMISSION

Steven A. Varga, Chief
Operating Reactors Branch No. 1
Division of Licensing

Attachment:
Changes to the Technical
Specifications

Date of Issuance: JUL 15 1983

ATTACHMENT TO LICENSE AMENDMENT

AMENDMENT NO. 23 TO FACILITY OPERATING LICENSE NO. NPF-8

DOCKET NO. 50-364

Revise Appendix A as follows:

Remove Pages	Insert Pages
3/4 3-72	3/4 3-72
3/4 3-73	3/4 3-73

INSTRUMENTATION

3/4.3.4 TURBINE OVERSPEED PROTECTION

LIMITING CONDITION FOR OPERATION

3.3.4 At least one turbine overspeed protection system shall be OPERABLE.

APPLICABILITY: MODES 1, 2* and 3*.

ACTION:

a. With one stop valve or one governor valve per high pressure turbine steam line inoperable and/or with one reheat stop valve or one reheat intercept valve per low pressure turbine steam line inoperable, restore the inoperable valve(s) to OPERABLE status within 72 hours, or close at least one valve in the affected steam line(s) or isolate the turbine from the steam supply within the next 6 hours.

b. With the above required turbine overspeed protection system otherwise inoperable, within 6 hours isolate the turbine from the steam supply.

c. The provisions of Specification 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

4.3.4.1 The provisions of Specification 4.0.4 are not applicable.

4.3.4.2 The above required turbine overspeed protection system shall be demonstrated OPERABLE:

#a. At least once per 7 days when the DEH valve test feature is OPERABLE by cycling each of the following valves through at least one complete cycle from the running position.

1. Four high pressure turbine stop valves.
2. Four high pressure turbine governor valves.
3. Four low pressure turbine reheat stop valves.
4. Four low pressure turbine reheat intercept valves.

#b. If the DEH valve test feature is inoperable, restore the test feature to OPERABLE status as soon as possible and verify that the governor valves are capable of valve motion at least once per 7 days.

*Specification not applicable with all main steam isolation valves and associated bypass valves in the closed position and all other steam flow paths to the turbine isolated.

#The provisions of Surveillance Requirements 4.3.4.2.a, b and c are not applicable during the remainder of the second fuel cycle, except that one test shall be run during August 1983.

SURVEILLANCE REQUIREMENTS (Continued)

#c. At least once per 31 days by direct observation of the movement of each of the above valves through one complete cycle from the running position.

d. At least once per 18 months by performance of a CHANNEL CALIBRATION on the turbine overspeed protection systems.

e. At least once per 40 months by disassembling at least one of each of the above valves and performing a visual and surface inspection of valve seats, disks and stems and verifying no unacceptable flaws or corrosion.

#The provisions of Surveillance Requirements 4.3.2.a, b and c are not applicable during the remainder of the second fuel cycle, except that one test shall be run during August 1983.

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 23 TO FACILITY OPERATING LICENSE NO. NPF-8

ALABAMA POWER COMPANY

JOSEPH M. FARLEY NUCLEAR PLANT, UNIT NO. 2

DOCKET NO. 50-364

Introduction

Farley Unit 2 Technical Specification 3/4.3.4, Turbine Overspeed Protection, specifies periodic surveillance testing of turbine valves to demonstrate valve operability. The surveillance requirements necessitate all turbine stop, governor, reheat stop and reheat intercept valves to be stroked through their complete cycle from their operational position on a weekly basis. Alabama Power Company (APCo) proposed a one-time Technical Specification change by letter dated May 27, 1983, supplemented on July 13 and 15, 1983.

By letters of July 13 and July 15, 1983, APCo advised that adherence to the above test schedule would impose significant operational difficulties. In particular, the power reduction required to perform the test may lead to pressure and temperature transients in the reactor coolant pump seals which could lead to instability in the seal leakage flow rates. Excessive seal leakage requires plant shutdown and replacement of the seal. In order to avoid a potential early forced plant shutdown, APCo proposed the one-time change to the Technical Specifications which would exempt testing as required by surveillance requirements 4.3.4.1.2a, b, and c.

APCo requested expedited review of this request because required testing could cause conditions leading to plant shutdown.

Evaluation

Steam enters the high pressure turbine through four throttle valves in series with four governor valves. Steam exits the high pressure turbine, flows through the moisture separator reheaters, and enters the low pressure turbines through four reheat stop valves in series with four reheat intercept valves. The turbine is equipped with an emergency trip system that is designed to close the throttle, governor, reheat stop and reheat intercept valves in the event of turbine overspeed, low bearing oil pressure, low vacuum, or thrust bearing failure. An electric solenoid trip is provided for remote manual trips and various other trips. Turbine trip is effected by three overspeed sensors. The primary overspeed controls is provided by the Digital Electro-Hydraulic Control System which is set to produce a turbine trip at 103% of rated shaft speed. The first backup overspeed protection is provided by a mechanical overspeed mechanism and trips the turbine at 111% of rated shaft speed. The secondary backup overspeed protection is provided by the electro-hydraulic control system if the rated shaft speed exceeds 111.5%. This redundancy in both valves and overspeed protection controls provides high assurance that turbine speed control will be maintained.

As the reactor core nears end-of-life, cycling of the nuclear steam supply system imposes operational difficulties in maintaining the axial flux difference within the Technical Specification target band limitation. The return to full power following turbine valve tests performed near the end of reactor core life necessitates the processing of significant amounts of reactor coolant. In returning to full power, additional operational difficulties occur from overcoming negative reactivity due to xenon transients.

Recently the plant has experienced a brief increase in pump leakage in one of the reactor coolant pump (RCP) seals. The temperature transient associated with operations required for the turbine valve tests could cause additional instability in the sensitive seal. This situation is the reason for reducing the valve testing frequency on a more urgent basis than planned. Such increases of leakage flow in a RCP seal are not uncommon for a seal near the end of its life. APCo has committed to monitor the seal carefully during the remainder of the cycle. Should excessive first stage seal leakage occur the licensee has committed to shut the plant down and replace the seal, in accordance with plant procedures.

These power transients and the potential for delays in the return to power from the turbine valve tests on a weekly basis are unnecessary as the turbine valves and overspeed protection system have been demonstrated as highly reliable in the past. Based on reliability evaluations of the turbine valves presented by Westinghouse and APCo, the staff concluded in our April 21, 1983 "Supplementary Safety Evaluation Report - Testing of Turbine Valves - Farley Unit 2" that there is not a sufficient basis for totally deleting all turbine valve testing requirements. However, the staff stated that an extension of the turbine valve testing interval from weekly to monthly is acceptable. Based on this position, the staff now states that one turbine valve test must be run midway in the approximate two month period remaining until the next scheduled refueling outage due to commence in mid-September 1983.

By letter dated July 15, 1983, APCo has modified their earlier recommendation for the turbine valve test frequency of Technical Specifications 4.3.4.1.2a, b and c. APCo proposed, and we agree, that only one test should be run between now and mid-September 1983, and that the test shall be run in the month of August. We find that such a testing frequency approximates a monthly test schedule, and hence does not constitute a reduction in any safety margin.

Summary

The licensee proposed to reduce the turbine valve testing on a one-time basis from weekly to approximately monthly. Since this proposal does not involve any reduction of safety margin and is compatible with the previous staff evaluation, it is acceptable.

Final No Significant Hazards Consideration Determination

On June 29, 1983, the Commission published a notice in the Federal Register (48 FR 29978) seeking public comments on its proposed determination that this amendment involves no significant hazards consideration. No public comments were received to date. However, at this time the licensee has identified additional operational circumstances which necessitate early issuance of the amendment. These circumstances, described in licensee letters dated July 13, and July 15, 1983, and discussed above justify this expedited action by the Commission. Without issuance of the amendment at this time weekly tests of turbine valves would be likely to jeopardize reactor coolant pump operation and to require a plant shutdown. Since the next required turbine valve cycling must be accomplished by July 18, 1983, and unless we take this action in a timely way a plant shutdown would be likely next week. The State of Alabama was consulted on this matter and had no comments on the proposed determination. As discussed above, the reduction in turbine valve testing on a one-time basis from weekly to approximately monthly until mid-September 1983 would not constitute a reduction in safety margins. The change does not involve a significant increase in the probability or consequences of an accident previously evaluated; or create the possibility of a new or different kind of accident from any accident previously evaluated; or involve a significant reduction in a margin of safety. Therefore, the Commission has made a final determination that the amendment does not involve a significant hazards consideration.

Environmental Consideration

We have determined that the amendment does not authorize a change in effluent types or total amounts nor an increase in power level and will not result in any significant environmental impact. Having made this determination, we have further concluded that the amendment involves an action which is insignificant from the standpoint of environmental impact and, pursuant to 10 CFR §51.5(d)(4), that an environmental impact statement or negative declaration and environmental impact appraisal need not be prepared in connection with the issuance of this amendment.

Conclusion

We have concluded, based on the considerations discussed above, that: (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, and (2) such activities will be conducted in compliance with the Commission's regulations and the issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public.

Date: JUL 15 1983

Principal Contributors:
M. Caruso
J. T. Beard
E. A. Reeves